

REMARKS

Claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, 44, 61-64, and 69-72 are pending, with claims 17, 21-25, and 61-64 being independent. Claims 51-56 are cancelled by this amendment.

Claims 51-56 stand rejected under 35 U.S.C. § 112, second paragraph. Applicants have cancelled claims 51-56, thus rendering this rejection moot, and request withdrawal of the rejection.

Claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawatsubashi et al. (5,148,301). Applicants respectfully traverse this rejection.

Claims 17 and 21-25 recite an active matrix liquid crystal display (claims 17 and 21-23) and a method of fabricating an active matrix liquid crystal display (claims 24 and 25) that include, inter alia, a sealing material sealing over the liquid crystal material and provided between the first substrate and the counter substrate and a control circuit having a control circuit chip provided under and in contact with the sealing material, where the control circuit is provided over the first substrate.

Applicants request withdrawal and reconsideration of the rejection because Sawatsubashi fails to describe or suggest an active liquid crystal display or a method of fabricating an active matrix liquid crystal display that includes a control circuit chip provided under and in contact with the sealing material, where the control circuit is provided over the first substrate.

Sawatsubashi discloses an integrated circuit including thin film transistors (col. 1, lines 53-54) and a driving circuit including thin film transistors (col. 2, lines 65-67 and col. 6, lines 43-48). However, Sawatsubashi does not describe or suggest a control circuit chip as recited in the claims. Indeed, Sawatsubashi states that the control signals for the driving circuit are provided outside of the display device, thus suggesting that any type of control circuit associated with the driving circuit is outside of the display device (col. 5, lines 12-16).

For at least these reasons, Applicants respectfully request the withdrawal of the § 103(a) rejection of claims 17 and 21-25, and their dependent claims 4, 6, 13, 14, 30, 31, 35, 36, 40-42, and 44.

Claims 61-64 and 69-72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Prior Art (APA) in view of Inoue et al. (5,854,664), McClelland et al. (4,695,490), and Sasaki et al. (4,494,825). Applicants respectfully traverse this rejection.

Claims 61-64 recite a semiconductor device that includes, inter alia, a gate electrode provided adjacent to a channel formation region with a gate insulating film therebetween having a thickness of 500 to 2000 Å, a bus line having a part located adjacent to a side edge of a first substrate, a sealing material provided between the first substrate and a counter substrate, and a nonconductive material applied to the side edges of the substrates and the above part of the bus line, where the nonconductive material is provided on an outer side of the sealing material. Applicants respectfully request withdrawal of this rejection because the APA, Inoue, McClelland, and Sasaki, either alone in combination, fail to describe or suggest these features.

As recited in the claims, the nonconductive material is applied to the side edges of the substrates and the part of the bus line adjacent to the side edge of the first substrate on an outer side of the sealing material. Though not recited in the claims, use of such a nonconductive material on the outer side of the sealing material helps to prevent static charges from generating at the side edge of the substrates and the part of the bus line adjacent to the first substrate after the substrates have been cut. This, in turn, helps to prevent a gate insulating film of a pixel TFT connected with the bus line from breaking due to static charges. As a result, and as recited in the claims, a thin gate insulating film having a thickness of 500 to 2000 Å may be used.

The APA, Inoue, McClelland, and Sasaki do not describe or suggest applying a nonconductive material to the outer side of the sealing material to prevent static charges from generating at a side edge of the substrates and the part of the bus line adjacent to the side edge of the first substrate, or for any other purpose. Therefore, due to the problem of thin gate insulating films breaking due to static charges, it would not have been obvious to modify the circuits of any of these references to employ a thin gate insulating film having a thickness of 500 to 2000 Å.

For at least these reasons, Applicants respectfully request the withdrawal of the § 103(a) rejection of claims 61-64, and claims 69-72 dependent therefrom.

Claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, 44, 61-64, and 69-72 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of Koyama, et. al (6,246,454) in view of Inoue, McClelland, and Sasaki.

Applicants respectfully traverse this rejection.

Claims 17 and 21-25 recite an active matrix liquid crystal display (claim 17 and 21-28) and a method of fabricating an active matrix liquid crystal display (claims 24 and 25) that include, inter alia, a sealing material sealing over the liquid crystal material. The claims of Koyama do not recite a sealing material sealing over the liquid crystal material. Thus, claims 17 and 21-25 are patentably distinct over the relied-upon claims of Koyama. Further, neither Inoue, McClelland, nor Sasaki remedies the failure of the claims of Koyama to describe or suggest a sealing material sealing over the liquid crystal material.

Claims 61-64 recite a semiconductor device that includes, inter alia, a gate electrode provided adjacent to a channel formation region with a gate insulating film therebetween having a thickness of 500 to 2000 Å, a bus line having a part located adjacent to a side edge of a first substrate, a sealing material provided between the first substrate and a counter substrate, and a nonconductive material applied to the side edges of the substrates and the above part of the bus line, where the nonconductive material is provided on an outer side of the sealing material.

As acknowledged in the Office Action, the claims of Koyama do not recite certain features of claims 61-64, specifically, a gate electrode with a gate insulating film having a thickness of 500 to 2000 Å, and a nonconductive or weakly conductive material applied to the side edges of the substrates and a part of the bus line, where the nonconductive material is provided on an outer side of a sealing material. Further, Inoue, McClelland, and Sasaki do not describe or suggest applying a nonconductive material to the outer side of the sealing material to prevent static charges from generating at a side edge of the substrates and the part of the bus line adjacent to the side edge of the first substrate, or for any other purpose. Therefore, nothing in these references would have motivated one of skill in the art to modify the device claimed by Koyama to employ a thin gate insulating film having a thickness of 500 to 2000 Å.

For at least these reasons, Applicants respectfully request the withdrawal of the double-patenting rejection of claims 17, 21-25, and 61-64 and claims 4, 6, 13, 14, 30, 31, 35, 36, 40-42, 44, and 69-72 dependent therefrom.